

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): An initialization method comprising:

initializing a phase change optical recording medium with a laser beam with a power density of from 15 to 22 mW/ μm^2 at a linear velocity of from 8 to 12 m/s to initialize the phase change optical recording medium, wherein the phase change optical recording medium comprises:

a transparent substrate having a guide groove on the surface thereof;

a first protective layer which is overlaid on the transparent substrate;

a recording layer which is overlaid on the first protective layer and which essentially consists of a material which is represented by the following composition formula:

$\text{Ag}\alpha\text{X}\beta\text{Sb}\delta\text{Te}\epsilon\text{Ge}\gamma$, wherein X is at least one element selected from the group of Ga, In, Tl, Pb, Sn, Bi, Cd, Hg, Mn, Dy, Cu and Au, and α , β , δ , ϵ , and γ have units of atomic % and satisfy the following relationships:

when $\alpha = \beta = 0$;

$\delta + \epsilon + \gamma = 100$;

$60 \leq \delta \leq 80$;

$0 \leq \epsilon \leq 30$, and

$1 \leq \gamma \leq 10$, and

when at least one of α and β is greater than 0;

$\alpha + \beta + \delta + \epsilon + \gamma = 100$,

$$5 \leq \alpha + \beta + \gamma \leq 9,$$

$$0 \leq \alpha \leq 2,$$

$$0 \leq \beta \leq 8,$$

$$60 \leq \delta \leq 80,$$

$$0 \leq \epsilon \leq 30, \text{ and}$$

$$1 \leq \gamma < 9; \text{ and}$$

a second protective layer which is overlaid on the recording layer; and

a reflective layer which is overlaid on the second protective layer,

wherein the phase change optical recording medium further comprises an oxide layer which comprises at least ZrO_2 and which is located in at least one of a position between the recording layer and the first protective layer and a position between the recording layer and the second protective layer, wherein the oxide layer further comprises at least one of a rare earth oxide and an oxide of a group IIa element exclusive of Be, ~~and~~ wherein a content of said at least one of the rare earth oxide and the oxide of a group IIa element exclusive of Be ranges from 1 to 10 mole % based on ZrO_2 , and wherein the or each oxide layer which comprises at least ZrO_2 present in the recording medium, has a thickness within a range of 2 to 6 nm.

Claim 2 (original): The initialization method according to claim 1, wherein the recording layer has a thickness of from 8 to 20 nm.

Claim 3 (cancelled)

Claim 4 (previously presented): The initialization method according to claim 1, wherein the oxide layer comprises ZrO_2 as a main component.

Claim 5 (currently amended): The initialization method according to claim 1, wherein the oxide layer further comprises a titanium oxide.

Claim 6 (original): The initialization method according to claim 5, wherein the content of the titanium oxide is not greater than 60 mole % based on a total amount of materials included in the oxide layer.

Claims 7 - 9 (cancelled)

Claim 10 (original): The initialization method according to Claim 1, wherein the irradiation is performed while the laser beam forms a spot having an area not greater than $200\text{ }\mu\text{m}^2$ on a surface of the recording layer, and wherein a light source of the irradiation laser beam has an output power of from 0.7 to 2.5 W.

Claim 11 (original): The initialization method according to Claim 1, wherein the linear velocity is in a range within + or -2 m/s of a crystallization limit speed of the recording layer.

Claim 12 (original): The initialization method according to Claim 1, wherein the irradiation is performed while the laser beam forms an oval-shaped spot, wherein the following relationship is satisfied: $d/n \leq pf \leq d(n-1)/n$,

wherein pf represents a feeding pitch of the laser beam, d represents a half width diameter of the oval-shaped spot in a longitudinal direction, and n is an integer of from 2 to 5, and wherein there is no portion in the recording layer which is subject to irradiation multiple times.

Claim 13 (cancelled)